

FARM

Topics for Discussion

To afford an opportunity for the interchange of ideas, and to provide a place where information may be given and received, we publish each week at the head of this department a list of topics, which our readers are invited to discuss. Opposite each topic is the date of publication of contributions on it, and readers are reminded that articles contributed on any of the subjects given, must be in our hands at least ten days earlier than the subject is scheduled for discussion in our columns.

Readers will understand that this department of the paper is theirs. They are invited to write the editor freely, expressing their opinion of the manner in which it is conducted and to suggest topics. If any reader has in mind a question which he or she may think can be profitably discussed, it will be given a place in the order of subjects, if it is deemed of sufficient general interest. Because this notice runs weekly at the head of the Farm Department does not mean that farm questions, only, may be taken up. The discussions will be spread over every department of the paper.

For the best article received on each topic, we will award a first prize of Three Dollars and for the Second best, Two Dollars, paying the latter sum for other contributions on the subject received and published in the same issue.

Articles should not exceed 500 words in length.

September 15.—*What has been your experience in marketing wheat, as regards selling immediately after threshing or holding until the rush is over? Does it pay as a rule to hold wheat? What do you intend doing this year?*

September 22.—*What has been your experience in boarding threshing gangs? Is the practice in vogue in most districts of farmers boarding the threshers, the proper one to follow? What would you suggest as a remedy if the present practice is unsatisfactory?*

September 29.—*At present quoted prices for hogs at Winnipeg stock yards, what margin of profit does your local buyer have? Does he pay one flat price for all grades or buy according to quality?*

October 6.—*What has been your experience in marketing eggs and poultry through commission merchants? Do you find such method of selling satisfactory?*

Septic Tanks for Farm Sewage Systems

I would like if you would explain the construction of septic tanks for farms. I have two to build and am not certain as to how they should be proceeded with. Do you know of any book on this subject? Everyone now building houses in the country is interested in the question of sewage disposal and I would like to get particulars.

Sask.

J. L.

We know of no book dealing particularly with the subject of septic tank construction or the disposal of farm sewage. In works on civil engineering the subject is discussed in a technical way, chiefly the use of septic tanks for the disposal of sewage in towns and cities where the sewers cannot empty into a lake or stream. Such texts, however, would be of little use to you.

The disposal of farm sewage presents a number of problems rather difficult of solution. If a creek or stream is handy to the house the sewer may empty into it, providing there is no danger of anyone being injured by the pollution of such, or if the surface of the ground is rolling it is possible

usually to conduct the sewer pipe to a safe outlet point where the sewage either filters into the soil or finds its way to a slough. When disposed of in such manner one should be careful the outlet is a sufficient distance from the well and buildings to ensure of not contaminating the water supply nor of being a nuisance on account of the odor arising.

Septic tanks are probably the best means of all for the disposal of sewage on the farm. These are simply large tanks in which the sewage is held long enough for most of the solid matter to settle out, and long enough for certain species of bacteria to act both upon the liquid sewage and the sludge. The bacteria found in sewage tanks are known as anaerobic bacteria, that is bacteria that do not need the oxygen of the air to live. In septic tanks conditions for their development are favorable, the sewage is still, there is little free oxygen and the organic matter which forms their food is present in abundant quantities.

There are two essentials in septic tanks: (1) that the sewage be introduced in such a way that it shall be distributed evenly and that its inflowing shall not unduly agitate the contents of the tank; (2) that the outlet be so arranged that neither the floating scum on top nor the layer of settled impurities at the bottom shall be permitted to escape. When used in cities the outflow of septic tanks is usually filtered through sand and gravel to further purify the liquid, and the water comes from the filter bed clear as crystal and if the filter is properly constructed, as pure as water can be. For farm sewage it is rather more difficult to provide for this since the contour of the land may not lend itself for the location of a filter bed below the outlet from the tank, and because trouble may arise from the bed freezing in winter. In large systems there is sufficient liquid received daily to prevent the filter bed from freezing, but in a one-house system this difficulty may present itself, particularly in a country where the winters are as severe as here.

To avoid this trouble some provide a well for the reception of the liquid from the tank, from which most of the water will seep away or which can be pumped out at intervals, while others, where the subsoil is of sand or gravel, lay a line of tile from the tank and secure outlet for the outflow in that way. Difficulty may arise from sediment in the liquid clogging up the tiles, but if decomposition of the organic matter is proceeding properly in the tank this method of disposal works satisfactorily. It is necessary to have several branch lines leading from the main line of tile to spread the liquid over a sufficient area of soil to ensure of prompt absorption.

The larger illustration shown gives an idea of the manner in which septic tanks are built. A filter bed is shown properly located, but if conditions make it impossible to filter the liquid the outflow pipe may be conducted to any outlet possible to provide: a well, a low lying piece of land or a stream. The tanks are usually constructed of concrete and should be absolutely water tight. The walls and inside partition require to be at least four inches in thickness. The size should be sufficient to hold the sewage produced in twenty-four hours, which can be estimated by allowing twenty gallons per day for each person large and small in the household. It is necessary to have the size very nearly correct, for if the tank is too small the sewage is forced out before being thoroughly decomposed, while if too large the bacteria required to produce decomposition may be "starved" or drowned, rather, by a superabundance of liquid. A settling tank four feet from inlet to bottom, three feet in length from the outside wall to the partition, and two and one-half feet across will contain over 160 gallons, the estimated quantity to be disposed of from a household of eight persons. The second chamber may be less than half the size of this, its function being simply to allow further settling of sediment, very little decomposition of organic

matter occurring in the second chamber. It is necessary to remove the solids from both chambers at least once a year, manholes at the top being provided for this purpose.

Barrels are used sometimes instead of concrete tanks and are quite as satisfactory though less durable. The barrels are buried in the soil below frost, two or three in a line, and emptying one to the other in the same manner as the liquid from the second chamber is emptied onto the filter bed in the illustration shown. But barrels are scarcely to be advised, being difficult to remove the solid matter from and less satisfactory in other ways than a well built concrete tank. The cost of a plant varies with the cost of materials, the location and the materials used in construction. A concrete tank discharged onto a filter bed may cost from \$50.00 to \$75.00. If barrels are used the cost may be reduced to less than half this amount.

In the smaller illustration a system is shown in which one tank only is used. This plant is installed on a Manitoba farm, has been in operation for several years and is giving excellent satisfaction. The outlet drains directly to a river, there is ample fall from house to tank and from tank to outlet. The sewage is decomposed by bacterial action in the tank and the liquid passing out, while not altogether pure, does not pollute the stream nor give rise to the objectionable odors which it might if carried directly from house to outlet. The sediment settles to the bottom of the tank and is removed once or twice a year. The outlet pipe draws the liquid from the center and thus removes neither the solid matter at the bottom nor the scum at the top. In any plant the tank must be buried below frost line, or else covered in winter to prevent freezing. Bacterial action proceeds most rapidly at temperatures well above the freezing point.

DAIRY

The Montreal Trade Bulletin reports the sale in New York of 1000 packages of dairy butter from Western Canada, for shipment to South America. The butter sold at fourteen cents.

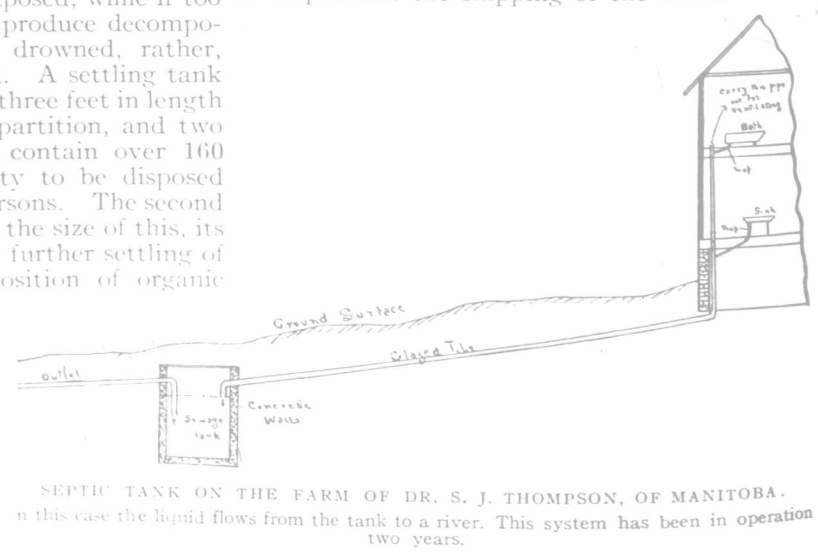
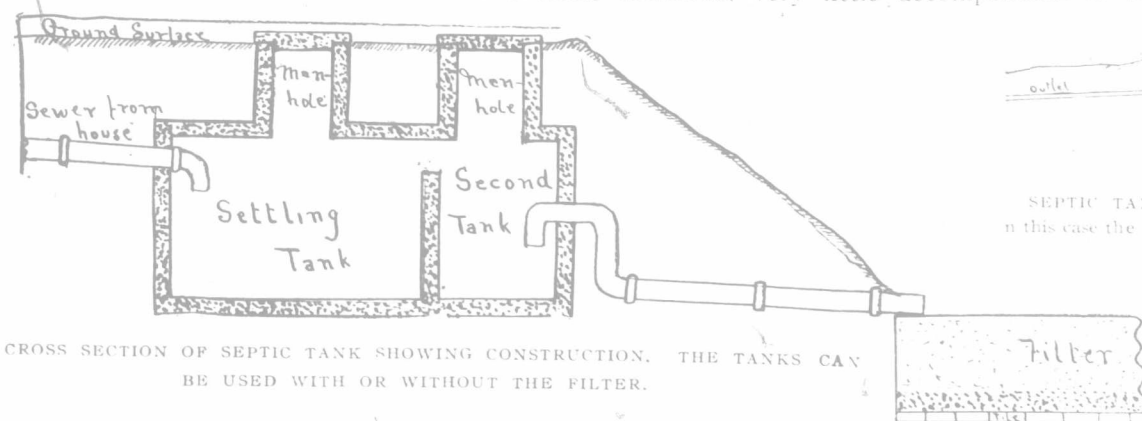
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A contrivance has been devised designed to keep cut cheese from drying out in grocery stores and shops. The device consists of an automatic shield, adapted to close over both sides of a wedge of cheese or to fit into the opening of a cut around cheese. It is fitted with a spring which causes it to keep always pressed over the cut surface of the cheese, thus preventing the air from reaching it and drying it out. The difference noted between cheese bought in one store and that obtained at another is not always a matter of quality, but often a matter of method of preservation.

Prefers Dual Purpose Cows

EDITOR FARMER'S ADVOCATE:

I am strongly in favor of dual purpose farm cows, cows that will produce beef stock as well as milk. Throughout the larger portion of this country grain growing is the chief line of farming and dairying is not carried on extensively enough to warrant the establishment of butter or cheese factories. Transportation difficulties are so great as to prohibit the shipping of the whole milk to



where factories are situated. However, the cream may be shipped a considerable distance to factories and a very handsome profit realized, and the skim milk is left on the farm to produce stock. If cows of the dairy type are kept what